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Attorney Docket:

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Michael J. Heller, et al.

Serial No.: 09/374,338

Filed: August 13, 1999

For: MICROELECTRONIC MOLECULAR  
DESCRIPTOR ARRAY DEVICES,  
METHODS, PROCEDURES, AND  
FORMATS FOR COMBINATORIAL  
SELECTION OF INTERMOLECULAR  
LIGAND BINDING STRUCTURES  
AND FOR DRUG SCREENING

Group Art Unit: 1627

Examiner: Thomas Prasthofer

#16  
B1098  
11-7-02PETITION UNDER 37 CFR §1.118(a) TO WITHDRAW HOLDING OF ABANDONMENTCommissioner for Patents  
Washington, D.C. 20231

Sir:

Applicants hereby petition for withdrawal of the holding of abandonment in the above case, based on the fact that applicants' reply of August 9, 2001 to the Requirement to Comply with Sequence Listing Rules of July 24, 2001, both was a *bona fide* attempt to comply with the Sequence Listing Rules, and did, in fact, fully comply with the Sequence Listing Rules.

The facts of this case are summarized, in chronological order, as follows:

OC-94743.1

## CERTIFICATE OF MAILING (37 C.F.R. §1.10)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as 'Express Mail Post Office To Addressee' in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231.

Express Mail Label No.: EL622500662US  
Date of Deposit: October 18, 2001  
Michael A. Smith

August 13, 1999: Case USSN 09/372,338, entitled "MICROELECTRONIC MOLECULAR DESCRIPTOR ARRAY DEVICES, METHODS, PROCEDURES, AND FORMATS FOR COMBINATORIAL BINDING STRUCTURES AND FOR DRUG SCREENING" is filed in the U.S. Patent and Trademark office, without a sequence listing. As all of the structures described in the application are not nucleic acids (which are furanosyl sugar phosphate backbone structures), but rather synthetic pyranosyl-RNA (p-RNA) structures with pyranosyl sugar phosphate backbones, applicants did not file a sequence listing with the application.

September 7, 1999: Notice to File Missing Parts mailed. No sequence listing was required in the initial notice to file Missing Parts.

October 21, 2000: First Notice to Comply with Sequence Listing Rules is mailed.

October 23, 2000: First Sequence Listing is submitted by applicants.

December 27, 2000: Second Notice to Comply with Sequence Listing Rules is mailed.

Two errors are noted: 1) the use of the positional designation "base between 7 and 8 is modified" rather than the acceptable "bases 7 and 8 are modified", and 2) the use of n to represent tryptamine.

January, 2001: Applicants' representative, Mr. Eagleman, spoke with the Examiner regarding the use of n to represent tryptamine, explaining that tryptamine is a synthetic nucleoside base, and thus would be correctly designated by the use of "n." However, after speaking with the Examiner, it was agreed that a new sequence listing would be submitted to correct the minor positional statement error.

January 8, 2001: Second Sequence Listing is submitted by applicants.

July 24, 2001: Third Notice to Comply with Sequence Listing Rules is mailed. The only non-compliance noted is that the computer readable format (CRF) file is corrupted.

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August 9, 2001: Third Sequence Listing is submitted by applicants, with verified CRF [paper copy attached as **Exhibit A**].

October 1, 2001: Notice of abandonment of application 09/374,338 mailed [copy attached as **Exhibit B**]. The only reason for abandonment is stated to be that "Applicant's response to the communication mailed July 24, 2001 (Non-Bona Fide attempt to comply with the sequence rules) did not comply with the sequence rules." The only error noted on the attached sequence listing error report is the use of "n" to represent tryptamine. The notation on the error report states "n can only represent a single nucleotide base at any single location. FYI, tryptamine is an amino acid or protein."

October 17, 2001: Applicants' representative, Mr. Eagleman, spoke with Examiner Prasthofer regarding the notice of abandonment. Examiner Prasthofer acknowledged that tryptamine is a synthetic nucleotide base, and would be correctly represented by "n" in the sequence listing. Examiner Prasthofer also acknowledged that the statement that "tryptamine is an amino acid or protein" was clearly in error. After conferring with Supervisory Examiner Venkat, Examiner Prasthofer suggested petitioning to correct this error.

#### REMARKS

Applicants first note that the correct procedure to contest the sufficiency of a reply which serves as the basis of a holding of abandonment for insufficient reply is a petition to the Commissioner under 37 CFR 1.181(a), as now submitted by the applicants (see MPEP §711.03(c)). Applicants also note that this petition is timely, as it is submitted well within the two month period suggested in 30 CFR 1.181(f). Applicants submit that the holding of abandonment was clearly in error, as is evidenced by the facts above, and a correct technical analysis of the sequence listing submitted by the applicants.

Applicants first note that the present application presents unique challenges to the system of sequence representation provided by the sequence rules. First, the sequences are not nucleic acids, per se, but rather nucleic-acid like structures with a pyranosyl sugar moiety (hence the term pyranosyl-RNA or p-RNA) in the sugar phosphate backbone portion

of the molecule, rather than the furanosyl sugar moiety found in naturally occurring nucleic acids. See the attached illustration of furanosyl RNA tryptamine and pyranosyl RNA tryptamine. In addition, the synthetic nucleotide base tryptamine is utilized in many of the poly p-RNA structures in order to provide a primary amine for cross-linking to other moieties (e.g., peptides). As the rather limited list of single-letter representations for nucleotide bases does not include a specific representation for the synthetic base tryptamine, "n" is the only available designation for this base.

As acknowledged by Examiner Prasthofer, the Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) made a clear error in mischaracterizing tryptamine as an amino acid, perhaps confusing it with the amino acid tryptophan. See the attached illustration, which also provides the molecular structure of tryptophan, for comparison to the synthetic base tryptamine. Evidently, STIC did not recognize that tryptamine is a synthetic nucleotide base. As STIC has made a clear technical error, and the sequence listing provided by the applicants does comply with the sequence listing rules, applicants' reply was indeed a sufficient reply, and the holding of abandonment was in error. Applicants thus hereby petition and request that the holding of Abandonment be withdrawn.

As a final comment, applicants note that the inflexibility and difficulty in representation of these synthetic structures will, most likely, continue to be a problem for customers of the Patent and Trademark office who, like the applicants, utilize non-naturally occurring nucleic acid-like molecules in their inventions. Applicants suggest that perhaps a more stringent review should be made of the technical accuracy of Sequence Listing Rule compliance determinations which can, as here, lead to a finding of Abandonment. As more cases such as the one presented here emerge, they will continue to unnecessarily tax both the resources of customers and the Office.

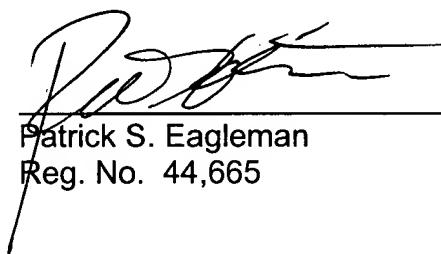
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Applicants do not believe there are any fees required for the submission of this petition. However, the Commissioner is authorized to charge Lyon & Lyon's Deposit Account No. **12-2475** for any fees required and to credit any overpayments to said Deposit Account **12-2475**.

Respectfully submitted,

**LYON & LYON LLP**

Dated: October 18, 2001

By:   
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